

ALABAMA
NONPOINT SOURCE MANAGEMENT PROGRAM
Revised 1999

PART II

CONSTRUCTION

All Comments Should Be Directed To:
Alabama Department of Environmental Management

Physical Address:
1400 Coliseum Boulevard
Montgomery, AL 36110-2059

Mailing Address:
PO Box 301463
Montgomery, AL 36130-1463

Telephone: 334-394-4354
Fax: 334-394-4383
Toll Free: 1-800-533-2336 (ADEM)
Website: www.adem.state.al.us

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TABLE OF CONTENTS

PART II. Construction	1
Subcategories	1
Chapter 1. Construction Short term Objectives	2
Chapter 2: Construction Tasks	4
Chapter 3: Construction Category Implementation Indicators.....	10
Chapter 4. Overview	11
a. Construction Nonpoint Source Pollutants	11
b. Storm Water Phase II	12
Chapter 5: Highway / Road / Bridge.....	15
Section 1. Subcategory 31: Management Measures.....	15
Section 2: Training and Educational Outreach.....	15
Section 3: Transportation Enhancement Act (TEA-21)	16
Section 4. Clean Air Act	17
Section 5. Resources	18
Section 6: Guidances and Information Applicable to ADEM Stormwater NPDES Permits	19
Chapter 6: Land Development	20
Section 1. Subcategory 32: Overview	20
Section 2: Land Development Management Measures	20
Section 3: Additional Information and References	22

PART II. Construction

Subcategories

Highway / Road / Bridge

Land Development

Chapter 1. Construction Objectives

The following short term objectives (5-year) link to the long term (15-year) Alabama Nonpoint Source Management Program Goals. These objectives will be used to demonstrate progress toward achieving the long-term goals.

1. Continue to assess and identify construction pollutant impaired waterbody sources and causes using the 5-year rotational river basin assessment approach.
2. Develop a "Construction Best Management Practices Manual," or similar booklet or handbook by FY2003 based on the, "*Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas.*"
3. Distribute 100 copies of the, "*Controlling Erosion and Sediment in Home Building*" publication annually by FY2005.
4. Develop a mechanism to cooperatively update and revise as needed the, "*Controlling Erosion and Sediment in Home Building*" manual by 2003 and every 5 years thereafter, using agency, association, and citizen input
5. Review and revise the cooperative ADEM/Alabama Homebuilders Association Memorandum of Agreement annually or as needed to continue the voluntary/enforcement partnership mechanism
6. Review and revise the cooperative ADEM/Alabama Association of General Contractors - Memorandum of Agreement annually or as needed to continue the voluntary/enforcement partnership mechanism
7. Have programs in place beginning each 5-year river basin rotation cycle to protect and restore 20% annually, CWA Section 303(d) listed waterbodies to designated water quality use classifications impacted by construction related pollutants by the end of the 5-year rotational cycle
8. Continue to integrate construction practices, land use planning, education and outreach, and other initiatives that are protective of the environment into the ongoing statewide NEMO urban program
9. Provide for construction components as needed into watershed restoration action strategies (WRASs) for 8-digit HUC Category 1B watersheds by 2003 or as expeditiously as possible.
10. Provide construction components as needed into watershed restoration action strategies (WRASs) for priority 11 digit or 14 digit HUC watersheds by 2005 or as expeditiously as possible.
11. Develop and institute annual pollution preventive educational outreach programs that address construction nonpoint source pollutants in each targeted river basin each 5-year rotational cycle.
12. Update or revise as necessary 20% annually, the construction related components of local community based environmental assessments (CBEP) and action plans in each river basin each 5-year river basin assessment cycle.

Construction Objectives, continued:

13. Continue to assess and balance economic and environmental aspects of construction practices in order to incorporate optimal, cost-effective management measures into watershed restoration action strategies (annually, sustain)
14. Update and revise Alabama specific construction educational outreach materials to assure dissemination of the latest research, technology transfer, and financial assistance available for optimum management measures for each construction category or subcategory (annually; sustain)
15. Incorporate a sensitive area (e.g., threatened and endangered species, wetland, habitat protection, etc.) protection component into Section 319 and other federal and state cost-share funding grants and loan programs as applicable as a best management practice (each funding cycle; sustain)
16. Revisit watershed restoration action strategy construction related components annually or as needed and revise as necessary to assess progress that reflects changing water quality, land use, land management practices, stakeholder support, resources, etc.

Chapter 2: Construction Tasks

The following tasks are necessary to achieve Alabama Nonpoint Source Management Program short term objectives. The tasks are not all inclusive. Other tasks (and action items) will be considered relative to site-specific and local needs as new partnerships are formed and opportunities for cooperation evolve and as goals and objectives are updated and revised.

Task 1. Promote the “bottom-up” programmatic approach and provide opportunities for input from “grass-roots” citizens and groups into the decision making process

The following tasks are generic and are applicable to all construction nonpoint source pollutants and subcategories. Additional tasks and activities may also be identified for specific construction subcategories below.

Action Items:

- a. Promote community based environmental protection assessments and implementation of locally-led “action plans” and watershed restoration action strategies
- b. Coordinate locally-led advisory committee needs and priorities
- c. Coordinate projects involving federal and state grants, loans, and/or cost-share funding
- d. Promote holistic planning and management plan development (e.g. holistic; statewide, river basin, watershed, and/or site-specific)
- e. Assess natural resource conditions and protection needs (e.g. sources, causes, priorities)
- f. Implement needed management measures (e.g. types; number; sites, maintenance)
- g. Coordinate implementation (e.g. effectiveness, site selection, timelines)
- h. Coordinate assessment, monitoring, and/or analyses (e.g. data and information collection and dissemination)
- i. Assess management measure implementation and effectiveness (e.g. environmental, economic, and social)
- j. Identify and provide measures of success (e.g. environmental indicators of Construction protection and improvements)

Co-lead: ADOT; Assoc. of Gen. Contractors (AGC); Homebuilder Assoc. of AL. (HBAA);
Cooperators: ADEM, CES, SWCC&D; TVA; RC&D; NEP; AECTF, IECA, SWCS, EPA, CERS-TSU, Industry, AU-T², Academia
Audiences: Professional Construction sector Groups, Associations, and Organizations; Environmental Community; Watershed Conservation Districts; CBEPs/Locally- Led Advisory Committees; Landowners/users; Builders; Construction workers; Industry; Public Officials; Planners; Volunteers; Citizens (statewide, coastal, and watershed based)
Resources: §319; state and federal grants, Watershed Authorities; loans (financial institutions); Regional Planners; citizen volunteers (AWW, AWWA); corporate and private donations, state and national associations; Industry
Milestones: On-going, Annual, Sustained

Task 2: Promote and/or provide educational outreach and training resources to assist stakeholders in making informed construction management decisions

Information may take multiple forms so that they will be accessible by homeowners, the construction industry, and others with a wide variety of educational backgrounds, skills, economic positions, and types of construction enterprises. New delivery methods will be sought, but practices that have worked in the past, such as field days, tours, industry and association meetings, publications, and on-site consultations and demonstrations will continue to be used.

Action Items:

- a. Develop a "Construction Best Management Practices Manual," or pocket-size or handbook document by FY2003
- b. Revise and update the, "*Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas*," document by 2003
- c. Distribute 100 copies of the, "*Controlling Erosion and Sediment in Home Building*" publication annually FY2005.
- a. Continue to implement ADEM "road shows" in 20% of the counties annually utilizing the rotational river basin approach or statewide as needed
- d. Develop example or model ordinances for subdivision developments and other construction activities for planners and government officials by 2005 for incorporation into local decision processes.
- e. Continue to develop; revise; update; distribute, and utilize other Construction:
 - mass audience newspapers, magazines, television, radio, websites, and signage
 - videos, slide sets, posters, bulletin boards, maps, displays, posters, bulletin boards
 - fact sheets, newsletters, brochures, magazine and newspaper articles
- f. Promote opportunities for annual planning, management, and assessments, technology transfer, and project visibility, etc., (e.g. conferences, meetings, seminars, training, tours, and field days)
- g. Continue on-going construction erosion control training in all counties (sustain)
- h. Continue the on-going ADEM/Alabama Homebuilders Association - Qualified Credentialed Professional Training program (sustain)
- i. Continue the on-going ADEM/Alabama Association of General Contractors Homebuilders Association - Qualified Credentialed Professional Training program (sustain)
- j. Identify and involve agencies and citizen stakeholders in nonpoint source pollution advisory committees
- k. Institute a statewide program to publicly recognize exemplary entity applications of Construction management practices by FY2003
- l. Provide a statewide forum for landowners and builders to promote transfer of technology that improves, restores, and prevents environmental degradation
- m. Develop an on-site training program for land disturbance operations to prevent erosion and sedimentation from occurring
- n. Provide K-12 school systems with access to educational outreach materials in Section 303(d) or Category 1B impacted watersheds within 2-years following priority rotational river basin targeting
- o. Provide all school systems statewide with access to construction educational materials by FY2005

Co-Leads: ADOT, AHBA, AGC

Cooperators: ADEM, CES, ASWCC&D, TVA, USFWS, RC&D, NEP, AECTF, IECA, SWCS, EPA, CERS-TSU, Industry, AU-T², Academia

Audience: Same as Task 1, above

Resources: §319; AFC State General Funds, AFA, Industry

Milestones: On-going, Annual; Sustained

- p. Continue to identify potential financial sources and assist stakeholders with grant/loan and cost-share application guidance and instructions

Lead: ADOT
Co-lead: ADEM
Cooperators: CES; NEP; AHBA, AGC, RC&D, TVA; AECTF, Regional Planners
Audiences: All stakeholders
Milestones: Annual, Sustain

- q. Implement enforcement mechanisms (regulatory approach) when the voluntary approach appears to falter (ongoing, sustained).

Lead: ADEM
Cooperators: ADOT, AHBA, AGC
Audience: All stakeholders
Resources: §319, State General Funds
Milestones: Ongoing, Annual, Sustained

- r. Promote a centralized statewide and local clearinghouses to provide up-to-date construction information

- All stakeholders to cooperatively share and exchange data and information as it relates to construction runoff prevention practices in watersheds adversely affected by construction pollutants
- Develop and disseminate watershed-specific citizen guides to construction runoff to include site evaluation and remediation options and resources

Lead: ADEM
Cooperators: ADEM, CES, ASWCC&D, TVA, RC&D, NEP, AECTF, IECA, SWCS, EPA, CERS-TSU, Industry, AU-T², Academia
Audiences: All stakeholders
Milestones: FY2005

- s. Promote dissemination of user-friendly and easily accessible public database tracking systems, geographical information systems (GIS) data layers, and annual and other reports:

- Provide stakeholders with “where and how” assistance to obtain information and conduct research
- Present information and data in forms construction stakeholders can easily understand and use
- Improve and expand management decision support models, simulators and “expert systems”
- Identify and publicly acknowledge entities that voluntarily “lead” in implementing new, innovative, and effective management measures
- Provide prompt, quality customer service to comments and questions posed by stakeholders
- Develop shared information systems to minimize overlap in data collection and development in order to save resources and maximize the usefulness of the data and information
- Raise the level of awareness of governmental agencies, officials, private organizations, teacher/students, general public, and news media on the seriousness of environmental problems associated with construction pollutants
- Prepare periodic reports describing the extent and severity of construction problems and the current status of on-going efforts to improve and restore degraded watersheds
- Establish and maintain interagency websites to link construction sites, sources, affected watersheds, and priority stream segment information
- Implement a construction electronic bulletin board for citizen complaints and for information seeking

Co-Leads: ADOT, AGC, AHBA
Cooperators: ADEM, CES, ASWCC&D, TVA, AECTF, Nature Conservancy, Forever Wild, IECA, SWCS, EPA, CERS-TSU, Industry, AU-T², Academia
Audiences: Same as Task 1, above
Resources: §319; AFC State General Funds; AFA, Industry
Milestone: Ongoing, Annual, Sustained

Alabama Nonpoint Source Management Program 6

Part II

Construction

Version 10-01-00

Task 3: Promote and implement nonpoint source management measures in order to restore beneficial uses in all construction impacted priority waterbodies

Action Items:

- a. Target Silvicultural pollutant control management measures to priority waterbodies using the 5-year river basin approach (e.g. Section 303(d); Section 305(b), Nonpoint Source Assessment Report, Unified Watershed Assessment), but maintain resource agency leverage to address statewide emergency or unforeseen implementation needs
- b. Coordinate and implement nonpoint source management measures to Section 303(d)/Total Maximum Daily Load (TMDL) listed waterbodies based on minimum annual percent per EPA TMDL consent order each 5-year river basin cycle
- c. Inventory statewide wetland and sensitive areas utilizing Geographic Information Systems (GIS) related to construction/urban sprawl issues by FY2005
- d. Develop, revise, and/or distribute homeowner and landowner specific management measure materials as needed
- e. Continue to implement management measures to target construction pollutants in each priority TMDL listed waterbody each 5-year cycle of the rotational river basin approach
 - Reduce erosion from Construction activities to less than water quality regulatory levels in all Section 303(d) and Category 1B listed waterbodies
 - Determine establishment of minimum site-specific construction set backs or easements for priority waters, sensitive areas, and wetlands based on slope, soils, and other factors (FY2005; begin with FY2000 TMDL list)
 - Promote the maintenance of management measures in addition to implementation
 - Coordinate and provide resources for management measure research and effectiveness evaluations
 - Promote protective road building and maintenance procedures for public and private lands in priority nonpoint source listed watersheds (sustain)
- f. Implement new and/or innovative construction management measures based on latest research
- g. Promote a statewide program of research to identify needs and develop a holistic construction management measure plan
- h. Continue to assess construction environmental and economic impacts and effectiveness
- i. Coordinate a program to assist homeowners with the installation of long-term nonpoint source management measures on privately owned and managed roads and lands (sustain)
- j. Include provisions for installing and maintaining management measures in all contracts to assure bidding economic equity (sustain)
- k. Establish at least one holistic 11-digit HUC focused construction watershed restoration action strategy project in the “annually” designated priority river basin each 5-year river basin rotational cycle
- l. Target federal and state cost share funding for protection of sensitive (e.g. threatened and endangered species, wetlands, habitat restoration, etc.) areas through coordinated interagency implementation of nonpoint source management measures

Co-Leads: ADOT, AGC, AHBA

Cooperators: ADEM, CES, ASWCC&D, TVA, AECTF, Nature Conservancy, Forever Wild, IECA, SWCS, EPA, CERS-TSU, Industry, AU-T², Academia

Audiences: Same as Task 1, above

Resources: §319; AFC State General Funds; AFA, Industry

Milestone: Ongoing, Annual, Sustained

Task 4: Form and Leverage New Partnerships and Sustain Current Ones

Action Items:

- a. Continue to implement, update, and/or develop Memorandum of Agreements (MOAs)

Co-Leads: ADEM
Cooperators: AHBA, AGC
Audiences: Same as Task 1, above
Resources: §319, AHBA, AGC
Milestone: Ongoing, Annual, Sustained

- b. Conduct surveys and interviews to assess and document construction management measures and stakeholder knowledge and attitudes

Co-Leads: ADOT, AGC, AHBA
Cooperators: ADEM, CES, ASWCC&D, TVA, AECTF, Nature Conservancy, Forever Wild, IECA, SWCS, EPA, CERS-TSU, Industry, AU-T², Academia
Audiences: Same as Task 1, above
Resources: §319; Industry, Associations
Milestone: Ongoing, Annual, Sustained

- c. Promote Construction Conservation, Resource Protection, and Management Measure Public and Private Sector Partnerships:

- Increase Homebuilders Qualified Credentialed Inspection Professionals (QCIP) 5% annually until 95% of all construction sites can have at least one QCIP on-site during construction activities
- Increase Association of General Contractor Qualified Credentialed Inspection Professionals (QCIP) 5% annually until 95% of all construction sites can have at least one QCIP on-site during construction activities
- Provide erosion control construction seminars in at least 20% of the counties annually
- Agencies will work to improve quality customer service
- Promote regular communication between public and private sectors
- Promote effective communication between statewide, basin, and watershed partners and communities
- Increase locally-led community based environmental protection awareness
- Cooperatively identify and list agency/citizen priorities
- Identify and train local project leaders and coordinators
- Improve interagency and local citizen access to education materials and technical assistance
- Provide tools for local planning and community based initiatives

Co-Leads: AGC, AHBA
Cooperators: ADEM, ADOT, CES, ASWCC&D, TVA, AECTF, Nature Conservancy, Forever Wild, IECA, SWCS, EPA, CERS-TSU, Industry, AU-T², Academia
Audiences: Same as Task 1, above
Resources: §319, Industry, Associations
Milestone: Ongoing, Annual, Sustained

Task 5: Assess, Restore, Maintain, and Protect Beneficial Uses of Water

Action Items:

- a. Target Construction management measures to priority waterbodies (Section 303(d); Section 305(b), Nonpoint Source Assessment Report, and WRASS) utilizing the rotational River Basin Approach (sustain, 5-year increments)
- b. Collate major river basin information into watershed restoration action strategies (statewide, river basin, and local watershed specific)
- c. Disseminate Construction assessment data and information in user-friendly, non-academic, citizen comprehensible formats

Leads: ADEM
Cooperators: AHBA, AFC, ADOT, AECTF, Industry
Audience: All stakeholders
Resources: §319; AFC State General Funds, Industry
Milestones: Ongoing, Annual, Sustain

Task 6: Promote the voluntary approach as the primary mechanism for construction nonpoint source pollution prevention, abatement, and resource protection

Action Items:

- a. Promote the voluntary approach as the primary mechanism for nonpoint source pollution prevention, abatement, and resource restoration efforts
- b. Deny construction permits if reliable hydrologic analysis predicts off-site pollution discharges will result in long-term environmental degradation and require continuing long-term commitments to maintain
- c. Promote adequate guarantees or other financial mechanisms in landowner contracts for management measures to protect water quality to ensure protection continues despite bankruptcy or other builder setbacks
- d. Annually review a sampling of independent builder contractual agreements to ensure inclusion of management measures to protect water quality
- e. Increase financial resources for compliance inspections
- f. Enforce fair and consistently applied rules, regulations, and policies
- g. Maintain open, constructive, and timely dialogue to improve voluntary landowner and builder interests
- h. Revise and update construction objectives and tasks as needed to be more responsive, efficient, and effective toward landowner and builder issues
- i. Continually strengthen overall Alabama Nonpoint Source Management Program efforts with input from regulatory agencies, industry, the environmental community, and citizens

Leads: ADEM
Cooperators: AHBA, AGC, AECTF
Audience: All stakeholders
Resources: §319, AFC State General Funds, Industry
Milestones: Ongoing, Annual, Sustain

Chapter 3: Construction Category Implementation Indicators

1. Develop construction WRASs for all Section 303(d) listed and Category I B watershed by 2003.
2. Develop construction activity TMDLs for applicable Section 303(d) listed waterbodies (annual percentage TMDLs required as per EPA consent order)
3. Implement 100% of the on-the-ground management measures identified for Section 303(d) listed waterbodies by the end of the first 5-year river basin rotation or as expeditiously as possible
4. Provide at least 1 annual statewide conference and 5 river basin stakeholder nonpoint source meetings annually to provide education outreach, technical assistance, and/or training (annual)
5. Develop common interagency report documents, databases, GIS capabilities, etc. (ongoing, sustain)
6. Coordinate construction issues and input with urban “smart growth” NEMO concepts and management measures (sustain)
7. Increase resources 5% annually to conduct compliance inspections to address statewide enforceable management measures (sustain)
8. Increase by 5% per year the number and sites monitored and assessed by citizen volunteer water quality monitors (on-going, sustain)
9. Train and certify Qualified Credential Inspection Professionals so that 95% of the sites have an inspector on site by 2005
10. Reduce construction pollutant runoff to less than regulatory levels from disturbed areas for all Section 303(d) or other priority listed waterbodies and segments (sustain)
11. Establish a riparian and/or conservation easements program or similar stream buffer plan for construction, subdivision, and urban area activities by 2005
12. Develop a list of common statewide, interagency, programmatic environmental indicator numerical criteria (FY2005) to measure programmatic success
13. Provide nonpoint source and resource protection educational outreach and training to 100 construction workers, road/bridge builders, homebuilders, developers, buyers/contractors; associations, and/or other construction industry entities (annually, sustain)
14. Number of construction workers, road/bridge builders, homebuilders, developers, buyers/contractors; associations, and/or other Construction industry entities provided management measure training
15. Provide water quality protection information to 150 landowners (annually, sustain)
16. Demonstrate at least one new and/or innovative construction industry technical management measure based on the latest technologies or research annually
17. Promote undisturbed natural groundcover to reduce erosion and sedimentation in Section 303(d) listed waterbodies to promote recovery and/or perpetuation of healthy aquatic organisms (sustain)
18. Increase public, non-profit, and citizen efforts to protect threatened and endangered species (sustain)
19. Increase the number of subdivision greenways or easements needed to protect (in perpetuity) sensitive flora, fauna, and other natural resources (annually, sustain)
20. Have in place pollution prevention measures that target future threats in priority areas and statewide each 5-year rotational cycle (annually, sustain)
21. Have in place construction management measures that protect and assure citizen recreational use activities each 5-year rotational cycle (sustain)
22. Coordination and/or implementation of interagency partnerships (e.g. funding; MOAs; sustain)
23. Coordination and/or implementation of interstate partnerships (based on 5-year river basin rotations)

Chapter 4. Overview

Unpermitted discharges to waters of state constitute violations of the Alabama Water Pollution Control Act (AWPCA), Code of Alabama 1975, 22-22-1 through 22-22-14, as amended, and the Alabama Environmental Management Act, Code of Alabama, 1975, 22-22A-16, as amended. The ADEM may also impose penalties for discharge violations and failure to comply with regulations (Code of Alabama, 1975, 22-22A-5(17), (18) and (19), as amended. Projects in Baldwin and Mobile Counties must obtain Coastal Consistency Certification from ADEM if the project is located in or impacts waters within the 10-foot contour line (ADEM Administrative Code Chapter 335-8).

The Federal Water Pollution Control Act (FWPCA) prohibits discharge of any pollutant to navigable waters from a point source unless it is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 Clean Water Act amendments authorized EPA to develop regulations for stormwater discharges. Section 405 of the Water Quality Act (1987) amended Section 402 of the Clean Water Act and required NPDES permits for industrial and municipal storm sewer discharges. Phase I stormwater regulations were published November 16, 1990, effective October 1, 1992, per 40 CFR Parts 122, 123, and 124.

a. Construction Nonpoint Source Pollutants

Nonpoint source or polluted runoff from roads, highways, and bridges are generally site-specific and are affected by traffic volume, road or highway design, surrounding land use, and accidental spills. Pollutants generally include sediment, nutrients, and heavy metals (e.g. cadmium, copper, lead, and zinc).

Task:

The Alabama Nonpoint Source Management Program will reduce or abate nonpoint source runoff and pollutant loadings from highway, road, bridge building and construction utilizing a combination of nonstructural and structural management measures appropriate to the source, location, and pollutant of concern.

This task will be achieved for new and retrofit sites through coordination and input from the Alabama Erosion Control Task Force (AECTF).

Activities to Address Construction Pollutants:

1. Develop an NPDES Construction Rule similar to the AFO/CAFO Rule by FY2003
2. Coordinate Rule development and implementation with the Nonpoint Source Education for Municipal Officials (NEMO) program
3. Continue to coordinate erosion and sedimentation management measures with the AECTF
4. Identify and prioritize sites for demonstration project management measures
5. Target adequate construction management measures in priority areas (e.g. Section 303(d), 305(b); Nonpoint Source Assessment Reports, etc.)
6. Continue to provide educational outreach, training, and/or certification programs and seminars
7. Reduce construction sites erosion so no complaints are received relative to turbidity standards violations

b. Storm Water Phase II

Pollutants commonly discharged from construction sites include sediment, solid and sanitary waste, fertilizer (N and P), oil and grease, concrete truck washout, construction chemicals, and litter and debris. Sediment runoff from construction sites may be 10 - 20 times greater than those from agricultural lands and 1,000 - 2,000 times greater than those from forested lands. Stormwater Phase II rules will cover construction site activities that result in land disturbance equal to or greater than 1-acre but less than 5-acres. Sites less than 5-acres are included if they are part of a larger common plan of development or sale with a planned disturbance of equal to or greater than 1-acre but less than 5-acres, or if they are designated by ADEM to have the potential for adverse effects on water quality or for significant contributions of pollutants based on a Total Maximum Daily Load (TMDL), watershed, or other local assessment.

Phase II Stormwater waivers* may be available if the owner/operator certifies:

1. Low predicted rainfall potential (e.g., "R" in the Revised Universal Soil Loss Equation (RUSLE) is less than two during the construction activity)
2. Low predicted soil loss on a case by case basis (e.g., less than 2 tons/acre/year using RUSLE assuming no ground cover and no runoff controls)
3. Stormwater controls are not needed based on either:
 - TMDL wasteload allocations for construction activities
 - A comprehensive watershed restoration action plan is implemented for the receiving waterbody, and that includes equivalents of TMDLs and addresses the pollutants of concern for construction activities

The above conditions are tentative and may vary or change pending implementation of Phase II regulations.

*From, "Storm Water Phase II Proposed Rule. Construction Program Overview". pp. 1. USEPA. 833-F-99-0. 13 April 1999. Fact Sheet 3.D.

Phase II Stormwater Timelines:

- **November 1999** - The final Phase II rule is published in the Federal Register, with Conditional No Exposure Exclusion option available on the effective date of the rule for facilities for which EPA is the permitting authority.
- **October 2000** - (one year from the date of publication of the final rule): EPA is obligated to issue a menu of recommended management measures for regulated small MS4s.
- **October 2001** - (one year after the issuance of the menu of management measures): EPA is obligated to issue guidance on the development of measurable goals for regulated small MS4s.
- **November 2002** - (three years from the date of publication of the final rule): The ADEM would be required to issue general NPDES permits for Phase II regulated small MS4s and small (less than 5-acres) construction activities.
- **February 2003** - (three years and ninety days from the date of publication of the final rule, or by the time specified in the NPDES permit): Operators of Phase II regulated small MS4s and small construction activity will be required to obtain permit coverage.
- By the end of their first permit term (typically 5 years), operators of regulated small MS4s will have to fully implement stormwater management programs.

Designated Phase II Stormwater Areas:

Incorporated or “urbanized area*” places and counties proposed to be automatically designated under the Stormwater Phase II Rule (based on 1990 Census of Population and Housing - U.S. Census Bureau) include: Anniston, Attalia, Auburn, Autauga County, Blue Mountain, Calhoun County, Colbert County, Dale county, Decatur, Dothan, Etowah County, Flint City, Florence, Gadsden, Glencoe, Grimes, Hartselle, Hobson City, Hokes Bluff, Houston County, Kinsey, Lauderdale County, Lee County, Madison County, Midland City, Montgomery County, Morgan County, Muscle Shoals, Napier Field, Northport, Opelika, Oxford, Phenix City, Prattville, Priceville, Rainbow City, Russell County, Sheffield, Southside, Sylvan Springs, Talledega County, Tuscaloosa, Tuscaloosa County, Tuscumbia, Weaver.

Incorporated or “urbanized area*” places and counties that *potentially may be designated* under the Stormwater Phase II Rule [Section 123.35(b)(2)] by ADEM (based on 1990 Census of Population and Housing. U.S. Census Bureau) are presented in Table 2.

Possible Additions: Jacksonville and Selma

*Note: Designated “urban” areas may change following the FY2000 Census (est. summer/fall 2001). An urbanized area is land area comprising one or more places - central place(s) - and the adjacent densely settled surrounding area - urban fringe - that together have a residential population of at least 50,000 and an overall population of at least 1,000 people per square mile.

Phase II Stormwater Management Measures:

Erosion and sedimentation from construction sites is best accomplished with proper planning, installation, and maintenance of controls. The following practices* have been shown to be efficient, cost effective, and versatile for small construction site operators to implement:

Non-Structural:

- Minimizing disturbance
- Preserving natural vegetation
- Good housekeeping

Structural:

- Mulch
- Grass
- Stockpile covers

Sediment Controls:

- Silt fence
- Inlet protection
- Check dams
- Stabilized construction entrances
- Sediment traps

Erosion and sedimentation controls require regular maintenance to operate correctly. Accumulated sediments should be removed frequently and materials checked periodically for wear. Regular inspections by qualified personnel, which can allow problem areas to be addressed, should be performed after major rain events.

*Derived from: Storm Water Phase II Proposed Rule. Construction Program Overview. pp. 4. USEPA. 833-F-99-013 April 1999. Fact Sheet 3.D.

Phase II Stormwater Construction Site Goals:

Goals, required for each minimum control measure, assist EPA, ADEM, and other stakeholders gauge permit compliance and program effectiveness. Goals include:

Target Date	Activity
Year 1	An ordinance or other regulatory mechanism in place; procedures for public input in place
Year 2	Procedures for regular inspections implemented; a certain percentage rate of compliance achieved
Year 3	Maximum compliance with ordinance; improved clarity and reduced sedimentation of local waterbodies
Year 4	Increased numbers of sensitive aquatic organisms in local waterbodies

*Derived from: Storm Water Phase II Proposed Rule. Construction Site Runoff Control - Minimum Control Measure. pp. 1. USEPA. 833-F-99-008 April 1999. Fact Sheet 2.6.

Chapter 5: Highway / Road / Bridge

Section 1: Management Measures

The following management measures are effective for retrofitting existing roads and highways that were constructed without, or with inadequate, pollution control management measures. The following management measures are site specific and may not be appropriate for all locations or pollutant sources:

1. Vegetated filter strips
2. Grassed swales
3. Detention basins
4. Constructed wetlands
5. Infiltration trenches

For effective applications of the above management measures:

1. Locate management measures within existing rights-of-way, medians, or interchange loops
2. Utilize runoff treatment for multiple-use purposes on adjacent lands (e.g. wetlands, parks, greenways, buffers).
3. Maximize the length and width of vegetated filter strips to promote runoff infiltration

Note: Refer to nonstructural practices described in the Alabama Nonpoint Source Management Program “Urban” category to achieve construction pollutant runoff controls.

Section 2: Training and Educational Outreach

1. The ADEM Nonpoint Source Unit conducts county-by-county, erosion and sediment control best management practice seminars for state and county road construction and maintenance construction workers, county engineers and others. At least two-thirds of the states 67 counties have been reached to date.
2. The Choctawhatchee, Pea, and Yellow River Water Management Authority has completed a, “Dirt Road Maintenance Best Management Practices Manual,” for the highly erodable southeastern Alabama Coastal Plains area, but the manual will be applicable statewide. The manual and accompanying video is being distributed and presented to several county road building and road maintenance entities.

Section 3: Transportation Enhancement Act (TEA-21)

Congress authorized \$200 billion of federal funds to construct highway and transit projects for a six year period (through FY2003). A priority is to integrate land use with transportation planning. The Federal Highway Administration (FHA) encourages local watershed and advisory groups to work with the Alabama Dept. of Transportation (ADOT) and local governments to express concerns about urban sprawl and possible alternatives to current development. TEA-21 provides a mechanism to mitigate environmental impacts of highway construction activities. Eligible projects include:

- Facilities for pedestrian and bicycles
- Safety and educational activities for pedestrian and bicyclists
- Acquisition of scenic easements and scenic an historic sites
- Scenic or historic highway programs (including tourist and welcome center facilities)
- Landscaping and other scenic beautification
- Historic preservation;
- Rehabilitation and operation of historic transportation buildings, structures, and facilities
- Preservation of abandoned railway corridors
- Control and removal of outdoor advertising
- Archeological planning and research
- Environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity
- Establishment of transportation museums

Funds are available to local watershed associations and non-profit organizations and generally require a 20% non-federal (real or in-kind match).

Section 4. Clean Air Act

The Clean Air Act of 1990 (PL 101-549) targets reduction of emissions that cause acid rain and destroys or depletes stratospheric ozone. Primary responsibility is assigned to the states to assure adequate air quality. The Act establishes National Ambient Air Quality Standards (NAAQS) for six pollutants - sulfur dioxide (SO₂), particulate matter (PM), nitrogen dioxide (NO₂), carbon monoxide (CO), ozone (O₃) and lead (Pb). State Implementation Plans (SIPs) are adopted by the 50 states for the above pollutants. Areas that do not comply with SIPs are designated non-attainment areas.

The federal Clean Air Act has as its purpose the protection of human health and the environment from emissions that pollute ambient, or outdoor air. The Act also addresses mobile sources, air toxics, acid rain, ozone depletion, and establishes a permit system, enforcement, and clean air research.

a: Ozone and Particulates

Although management controls are primarily addressed through NPDES permits, ozone and particulate problems can be considered nonpoint sources because of many other unpermitted and diffuse sources. Excess levels of ozone can result in breathing difficulties and other health problems for humans. The Alabama Nonpoint Source Management Program will develop nonpoint source coordination mechanisms such as educational outreach activities as applicable between federal and state (intrastate and interstate) agencies and develop demonstration techniques needed to mitigate problems associated with ozone and particulate production. Measures will include but not be limited to promoting ozone and particulate matter source reduction and pollution prevention through educational outreach, training, and technical assistance.

These pollutants can effect long-term traffic improvement and road building plans since the effects on air pollution emissions will have to be estimated before the project can be undertaken and federal road building funding may be disallowed for non-attainment areas.

Section 5. Resources

Associated General Contractors (AGC)

PO Box 10204

Birmingham, AL 35202

Telephone 205-252-8021 (Birmingham); 256-767-7216 (Florence); 334-344-8220 (Mobile); 334-832-4001 (Montgomery)

Alabama Department of Transportation (ADOT)

1409 Coliseum Blvd.

Montgomery, AL. 36130

Telephone 334-242-6356

Alabama Department of Environmental Management (ADEM)

Mining and Nonpoint Source Section

1400 Coliseum Blvd

PO Box 301463

Montgomery, AL 36130-1463

Telephone 334-394-4311

ADEM webpage www.adem.state.al.us

Federal Highway Administration (TEA-21) - National Transportation Enhancements Clearinghouse (888-288-6832. Toll free). Website www.railroads.org/ntec

- a. Best Management Practices Manual for Alabama Construction. ADEM and Alabama Branch - Associated General Contractors. August 1995. (Section 319(h) funds). Rep. July 1999 by AGC-AL.
- b. Revision No. 1. Alabama Department of Transportation Utility Manual. Alabama Department of Transportation. Montgomery, AL. October 15, 1995. Effective March 1, 1996. Montgomery, AL
- c. A Policy on Landscape Development for the National System of Interstate and Defense Highways. Operating Committee on Roadside Development. Adopted January 25, 1961. Copyright 1961. American Association of State Highway Officials. 917 National Press Building. Washington 4, D.C.
- d. Stormwater Permit Requirements for Construction Activities. Associated General Contractors of America. (no date). Copies available from Alabama Branch - Associated General Contractors.
- e. Construction Contractors Environmental Risk Management Procedures Manual. Associated General Contractors of America. 1957 E. Street, N.W. Washington, D.C. 20006. AGC Pub. No. 1184.
- f. Volume I AASHTO Guidelines for Hydraulic Considerations in Highway Planning and Location. American Association of State Highway and Transportation Officials (AASHTO). Prepared by the Task Force on Hydrology and Hydraulics - AASHTO Highway Subcommittee on Design. 1999. ISBN: 1-56051-112-5.
- g. Volume II AASHTO Guidelines for Hydrology. American Association of State Highway and Transportation Officials (AASHTO). Prepared by the Task Force on Hydrology and Hydraulics - AASHTO Highway Subcommittee on Design. 1999. ISBN: 1-56051-113-5.
- h. A Guide for Transportation Landscape and Environmental Design. American Association of State Highway and Transportation Officials (AASHTO). Prepared by the AASHTO Highway Subcommittee on Design - Task Force for Environmental Design. Published by the American Association of State Highway and Transportation Officials. 444 North Capitol Street, N.W. Suite 225 Washington, D.C. 20001. June 1991.

Alabama Nonpoint Source Management Program 18

Part II

Construction

Version 10-01-00

Section 6: Guidances and Information Applicable to ADEM Stormwater NPDES Permits

(available from sources and/or from ADEM at nominal cost):

- a. Stormwater Management for Construction Activities - Developing Pollution Prevention Plans and Best Management Practices. Office of Wastewater Enforcement and Compliance, USEPA. Washington, D.C. 20460, as amended.
- b. Best Management Practices for Controlling Sediment and Erosion from Construction Activities. Birmingham Regional Planning Commission, August 1980, as amended.
- c. Best Management Practices Plan - Magnolia Pipeline. Basin Pipeline Corporation. September 1991, as amended. 2101 6th Avenue North. Suite 900. Birmingham, AL 32503.
- d. Best Management Practices for Nonpoint Source Runoff Control - Mobile and Baldwin Counties, Alabama. South Alabama Regional Planning Commission, January 1989.
- e. Volume III AASHTO Guidelines for Erosion and Sediment Control in Highway Construction. American Association of State Highway and Transportation Officials (AASHTO). Prepared by the Task Force on Hydrology and Hydraulics - AASHTO Highway Subcommittee on Design. 1999. ISBN: 1-56051-114-1.
(Available from Alabama Dept. of Transportation)
- f. A Guide for Environmental Protection and Best Management Practices for the Tennessee Valley Authority Transmission Construction and Maintenance Activities. Tennessee Valley Authority. 1992, as amended.
- g. Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. EPA. January 1993, as amended. Document No. 840-B-92-002.
- h. Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas. Alabama Soil and Water Conservation Committee. Montgomery, AL. June 1992, as amended.
- i. Best Management Practices for Control of Stormwater Discharges from Transmission Line Construction Sites. Alabama Power Company. August 1996, as amended.

Chapter 6: Land Development

Section 1. Overview

Land Development activities accelerate erosion and sedimentation unless proper management measures are planned, installed, and maintained.

Construction Management Program Tasks:

- Continue to provide stakeholder education and training in order to promote effective utilization of management measures (on-going)
- Design and promote a statewide management measure implementation incentives, award, or recognition program for effective use of management measures for land developers by FY2005
- Implement effective land development associated erosion and sedimentation management measures in Section 303(d) listed watersheds (segments) as determined by the nonpoint source 5-year rotational river basin approach, locally led advisory group assessments, or citizen volunteer water quality monitors (ongoing, sustain)
- Promote implementation of local ordinances for municipal related stormwater runoff controls in 50% of the Section 303(d) and/or Clean Water Action Plan UWA's impacted by FY2015
- Coordinate construction planning and implementation with NEMO efforts
- Coordinate land disturbance educational outreach and training with the AECTF

Section 2: Land Development Management Measures

A. Subdivision Development and Homebuilding Construction

Construction activities which disturb 5 or more acres are permitted by ADEM under National Pollutant Discharge Elimination Permit (NPDES) General Permit ALG610000 (effective Aug 1, 1997 - expires July 31, 2002). The NPDES permit requires effective management measures be implemented to ensure protection of surface and ground water quality. In addition, the management measures must be designed, installed, and regularly inspected by a Qualified Credentialed Professional (QCP) until the construction activity is complete or until contravention of water quality is remediated.

B. In 1999, the Alabama Department of Environmental Management (ADEM) and the Home Builders Association of Alabama (HBAA) entered into a first-ever agency/regulator entity Memorandum of Agreement (MOA) in order to:

- a. Provide an efficient and effective tool to achieve and maintain compliance with NPDES Phase I and Phase II MS4 stormwater regulations at all residential construction sites
- b. Reduce resource intensive compliance costs through self-inspections and documentation
- c. Assure that the thousands of homebuilding project activities statewide are protective of the environment from on-set of disturbance to completion
- d. Provide coordination and collaboration to train and certify Qualified Credentialed Inspection Professionals* (QCIP) for residential construction and homebuilding by providing:
 - multi-media study materials
 - certification exam training
 - additional continuing education/training during the year
 - QCIP activities according to professional standards

The Alabama QCIP Program is based on a successful program developed by the Michigan Department of Environmental Quality and adapted for use in Alabama by the HBAA and CH2MHill.

Since commencement of the program in September 1999, at least fifteen 8-hour seminars (with a written test) were conducted with additional 15 seminars scheduled for FY2000. Homebuilders that pass the test are provided with a certification allowing them to conduct required erosion and sediment control inspections of regulated facilities as opposed to hiring a contractor to do the work. At least 280 participants have attended and about 130 have been certified.

***Qualified Credentialed Inspection Professionals acceptable to ADEM for HBAA certification:**

- A Certified Professional Erosion Control and Sediment Control Specialist (CPESC) as determined by the Alabama Soil and Water Conservation Society and the International Erosion Control Association (IECA)
- A professional engineer registered in the state of Alabama, a licensed landscape architect, a registered land surveyor, registered forester, registered professional geologist, Register Environmental Manager as determined by the National Registry of Environmental Professionals (NREP), and/or a Certified Professional Soil Scientist (CPSS). All QCIPs must be in good standing with the authority granting licensure or registry and must have proven education, training, and experience in industry standards and management measures implementation and management strategies.
- A USDA Natural Resources Conservation Service (NRCS) technical staff member with proven experience in management measure implementation
- A Homebuilders Association of Alabama certified management measure professional (for homebuilding and residential housing developments)
- Other QCIPs with proven experience and approved by ADEM

The QCIP becomes qualified to assist an engineer and/or professional help install the erosion and sedimentation management measures plan and sign off verifying its correct installation. The QCIP must inspect the entire site and record findings on a monthly basis. Inspections must also be conducted after every rain event that measures $\frac{3}{4}$ inches rainfall of more in a 24-hour period. The QCIP may sign off on each inspection and is responsible for having all corrective maintenance records on site at all times.

C. Alabama Branch Associated General Contractors (AGC) and ADEM. The Birmingham Branch of the AGC conducts a cooperative ADEM/Industry sponsored 14-hour Erosion Control Course for its member contractors and subcontractors. The program is a result of a joint Memorandum of Agreement (MOA) between ADEM and the Alabama Branch Associated General Contractors. At least 19 courses were offered between September and November 1999. Phase I MS4 areas were targeted (Jefferson, Shelby, Mobile, Huntsville, and Montgomery Storm Water Authorities), however, Phase II stormwater area courses will be conducted statewide in 2000 (e.g. Anniston, Florence, Tuscaloosa, and Dothan). Training and reference materials, manuals, a video, and a rain gauge are provided to attendees seeking QCIP certification.

The AGC course offerings and QCIP training addresses construction associated with:

- Commercial Building
- Municipal Utility
- Heavy Highway
- Industrial

By January 2000, at least 10 seminars had been conducted in Alabama with additional seminars scheduled. At least 50 contractors have been represented and 93 stakeholders certified. In March 2000, the seminar was updated/revised to improve presentation.

D. The Alabama Erosion Control Task Force (AECTF)

The AECTF, established in 1996, is actively involved in providing coordination of erosion and sedimentation issues statewide. The AECTF developed an, “Alabama Erosion Control Task Force - Recommendations for Reducing Pollution From Erosion and Sedimentation in Alabama,” document in 1997. Section 319(h) proposals incorporating erosion and sedimentation control measures are reviewed for consistency with AECTF “*Recommendations*.” Educational outreach, training seminars, and letters of support for financial assistance are coordinated by the AECTF as applicable. Projects are prioritized based upon the magnitude of the problem to be resolved, the ability of stakeholders to implement management measures, and local interest and resource commitments.

E. Training and Educational Outreach to Building Industry Stakeholders:

- The ADEM, in cooperation with the Center for Watershed Protection. Silver Springs Maryland, has sponsored Erosion Control Training and Certification courses in Montgomery, Birmingham, and Fairhope. ADEM continues to sponsor courses in cooperation with the Alabama Nonpoint Source Educational Coordinator, Center for Environmental Protection and Services - Troy State University.
- A construction/erosion management measure manual entitled, “Controlling Erosion and Sediment in Home Building,” developed in cooperation with the Home Builders Association of Alabama and utilizing Section 319 grant printing funds, was produced and continued to be provided to stakeholders by the ADEM and the Home Builders Association of Alabama.

Section 3: Additional Information and References

Associated General Contractors (AGC)

822 University Blvd

PO Box 10204

Birmingham, AL 35202

Telephone	205-252-8021 (Birmingham);	800-632-2025 (Florence);
	334-344-8220 (Mobile);	334-832-4001 (Montgomery);

Home Builders Association of Alabama (HBAA)

400 South Union Street

Montgomery, AL

- Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. EPA. January 1993, as amended. Document No. 840-B-92-002.
- Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas. Alabama Soil and Water Conservation Committee. Montgomery, AL. June 1992, as amended.
- Erosion and Sedimentation Control Ordinance. Storm Water Management Authority, Inc.
- Model Subdivision Regulations. Revised. Association of County Commissions - Board of Directors, and the Association of County Engineers of Alabama.